OCP Engineering Workshop 2014

Data Center Management based on OCP architecture

NISCOM Inc.

I am ...

- About me
  - TAKESHI MITSUISHI,
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  - Support for revitalization of hometown

- Business Carrier / Biz-Dev specialist
  - Fixstars Corp. - Corporate Officer -
  - CSK Group Company - Corporate Officer -
  - A Venture Company - Achieved go public on the Mothers SE -
  - Mizuho Bank Ltd. - Corporate Sales -

Niscom Service Menu

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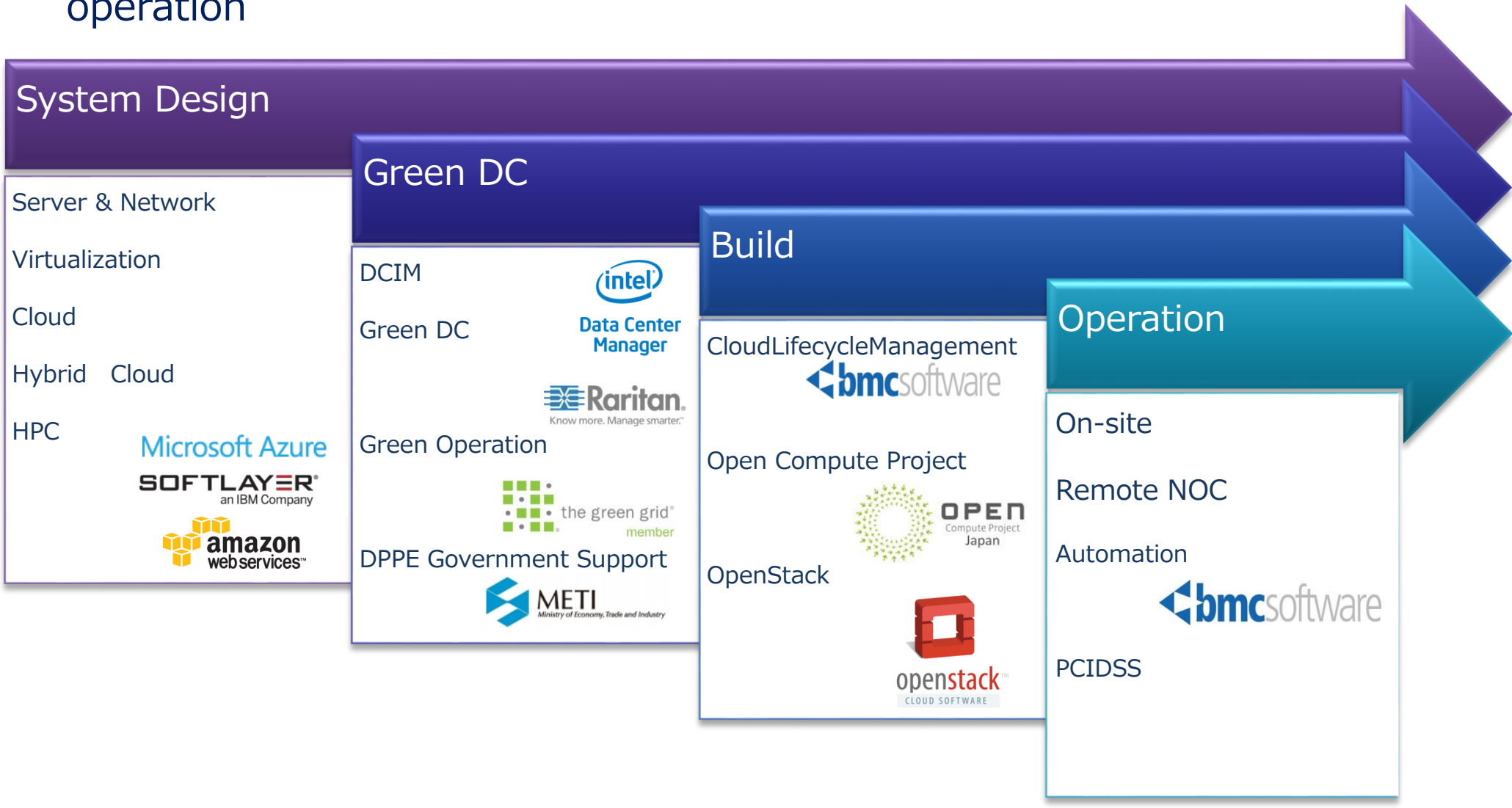
- Support wide scope from designing system, build cloud system, to operation



YES!

Now We can buy OCP server!

So what?

Making Eco-system

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OCP workflow

Steps to use

Procurement

Kitting/Setup

System Operation

What's inside Facebook

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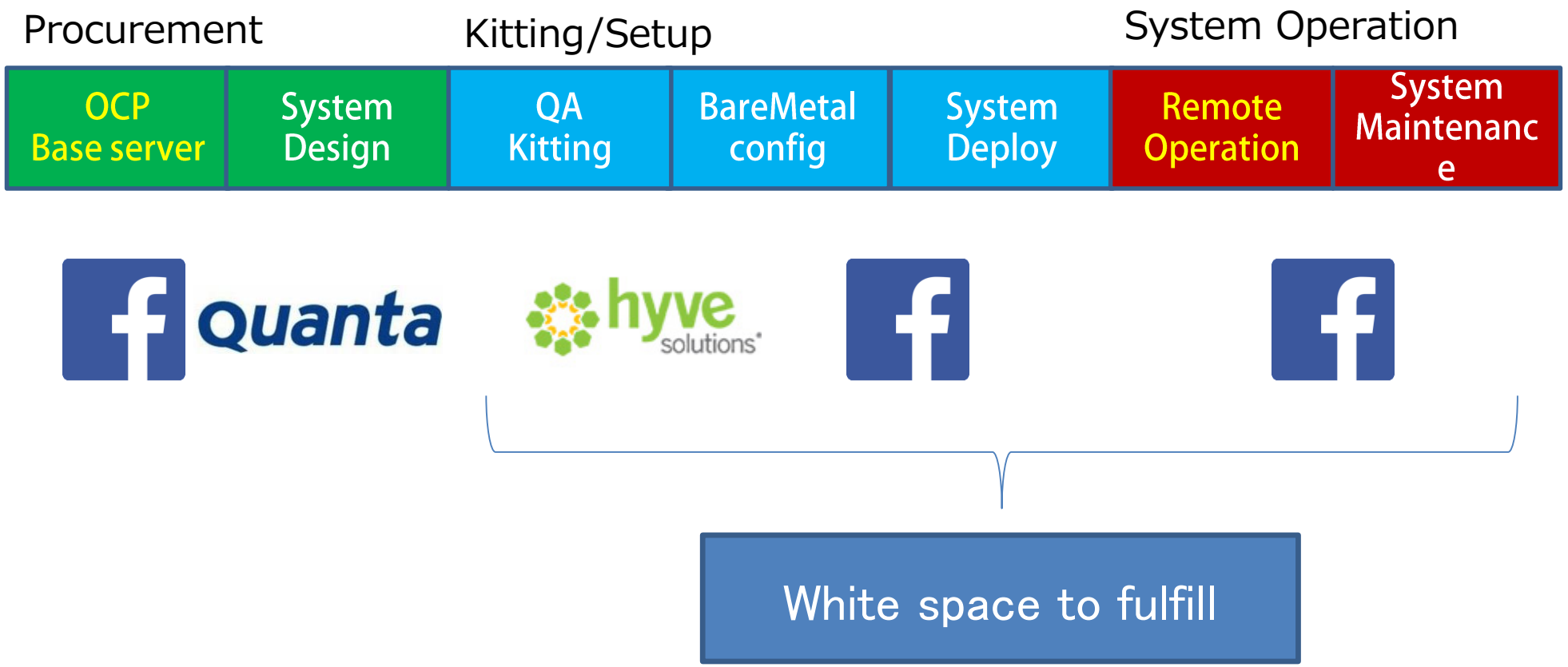
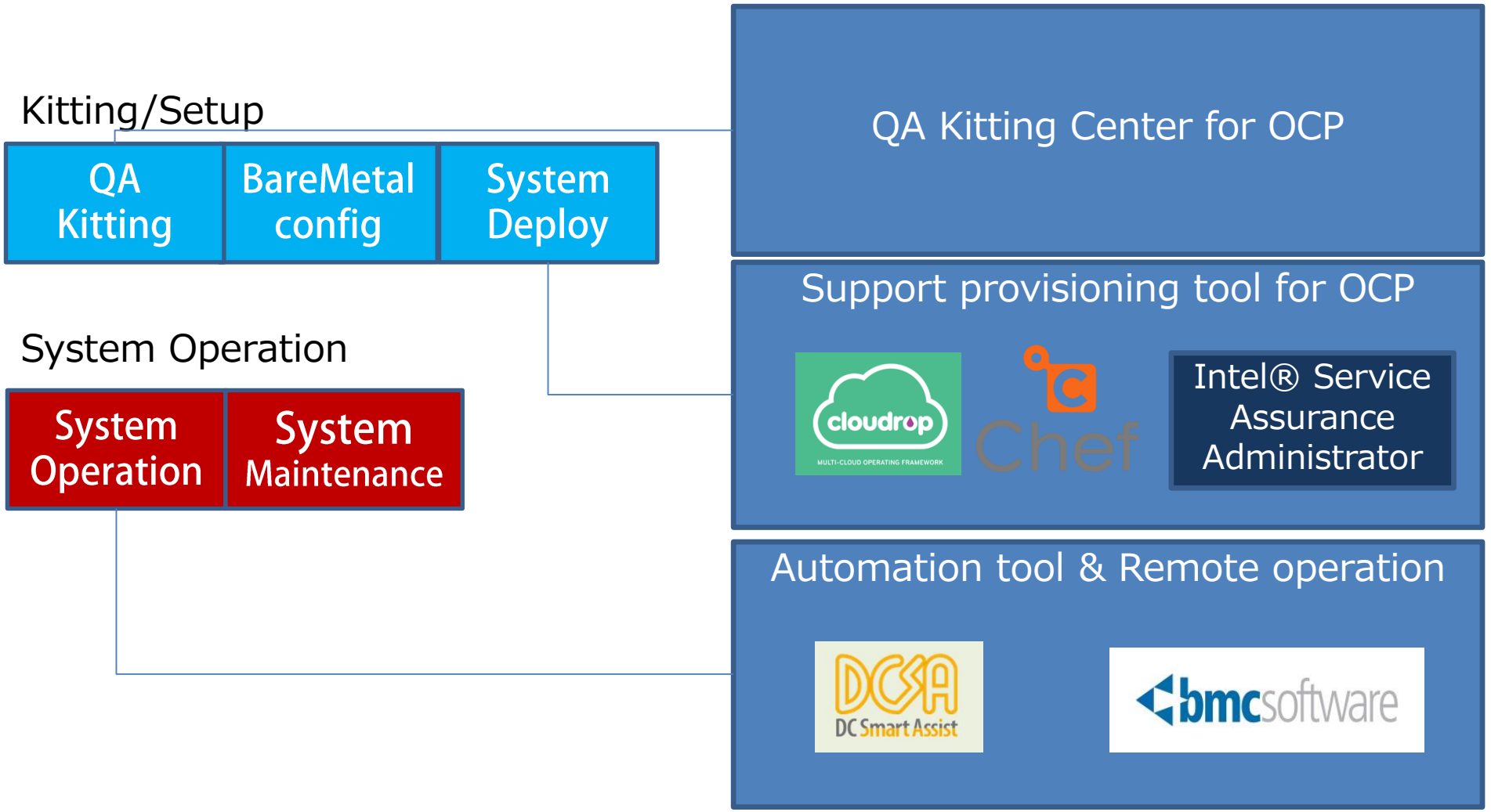
It is less likely to implement ALL Facebook-type systems in Japan, therefore, we plan to provide some key parts of them.



Niscom's contribution for OCP eco-system



Why niscom can do it?

Niscom has solutions for

Operations Automation

Cloud environment development

Operations Automation

Big Deal of Current System Operations

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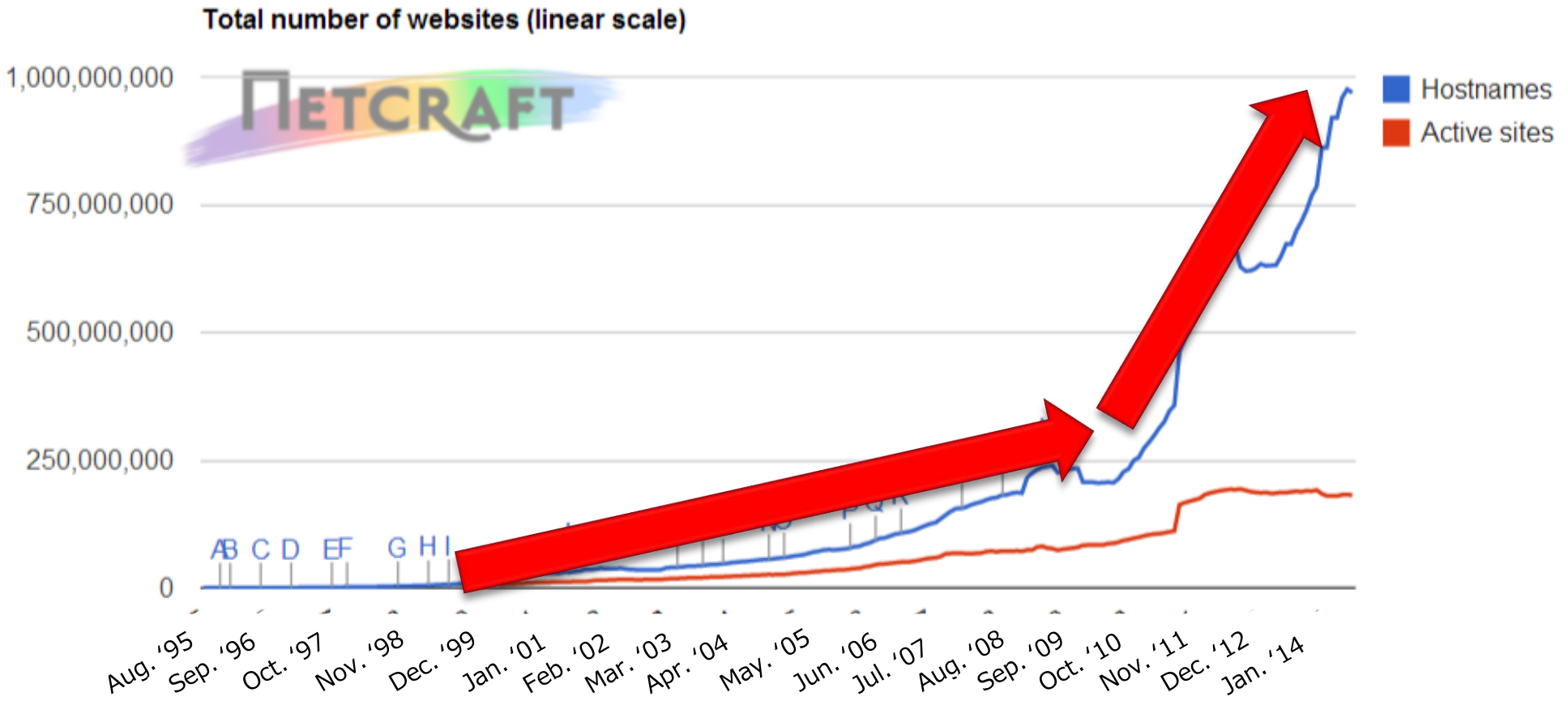
As of June **'11, 350M** Hosts → As of June **'14, 970M** Hosts

About **3 times** in the last three years



http://news.netcraft.com/archives/2014/06/06/june-2014-web-server-survey.html

Another Fact: Engineer shortage

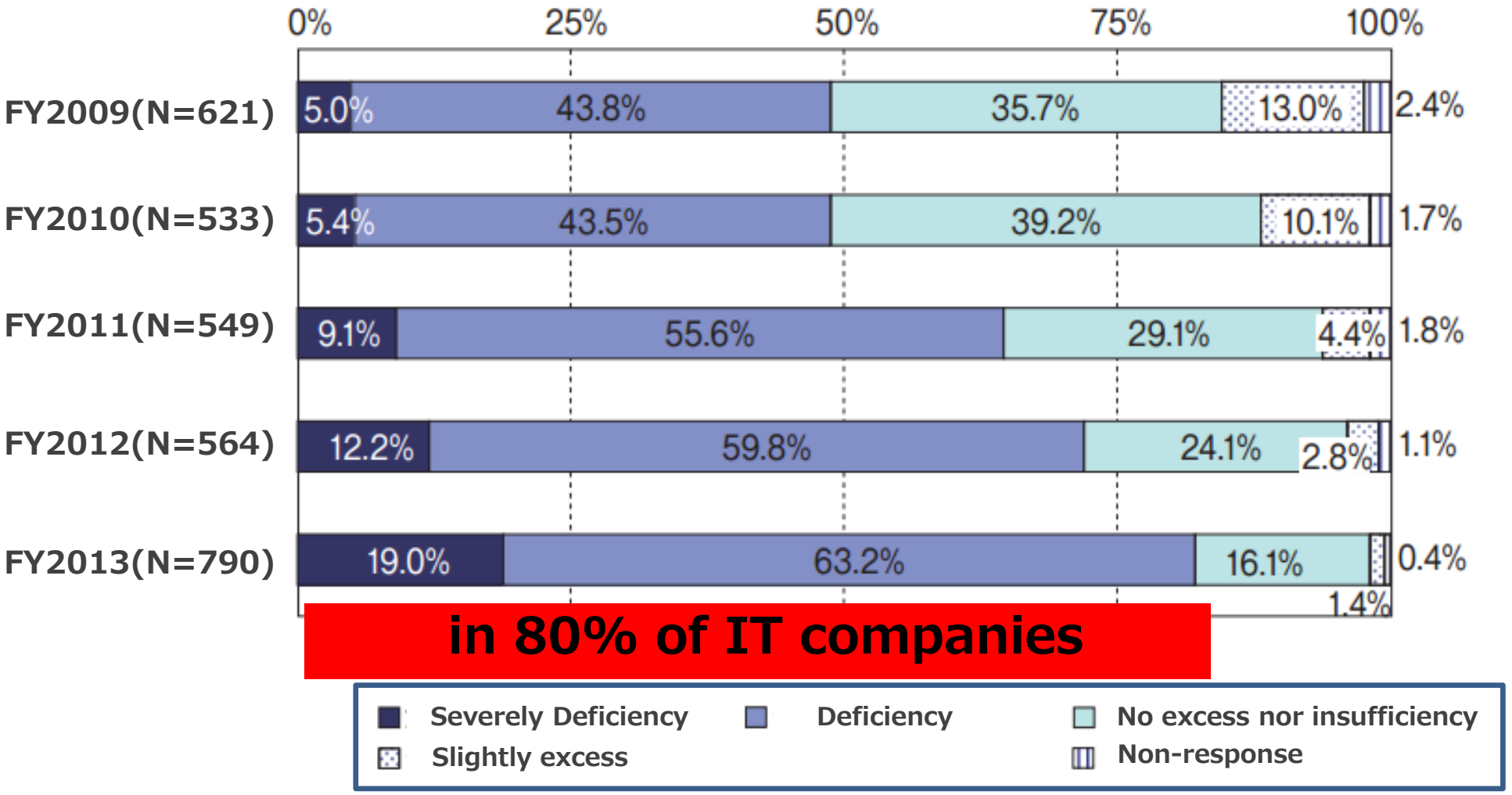
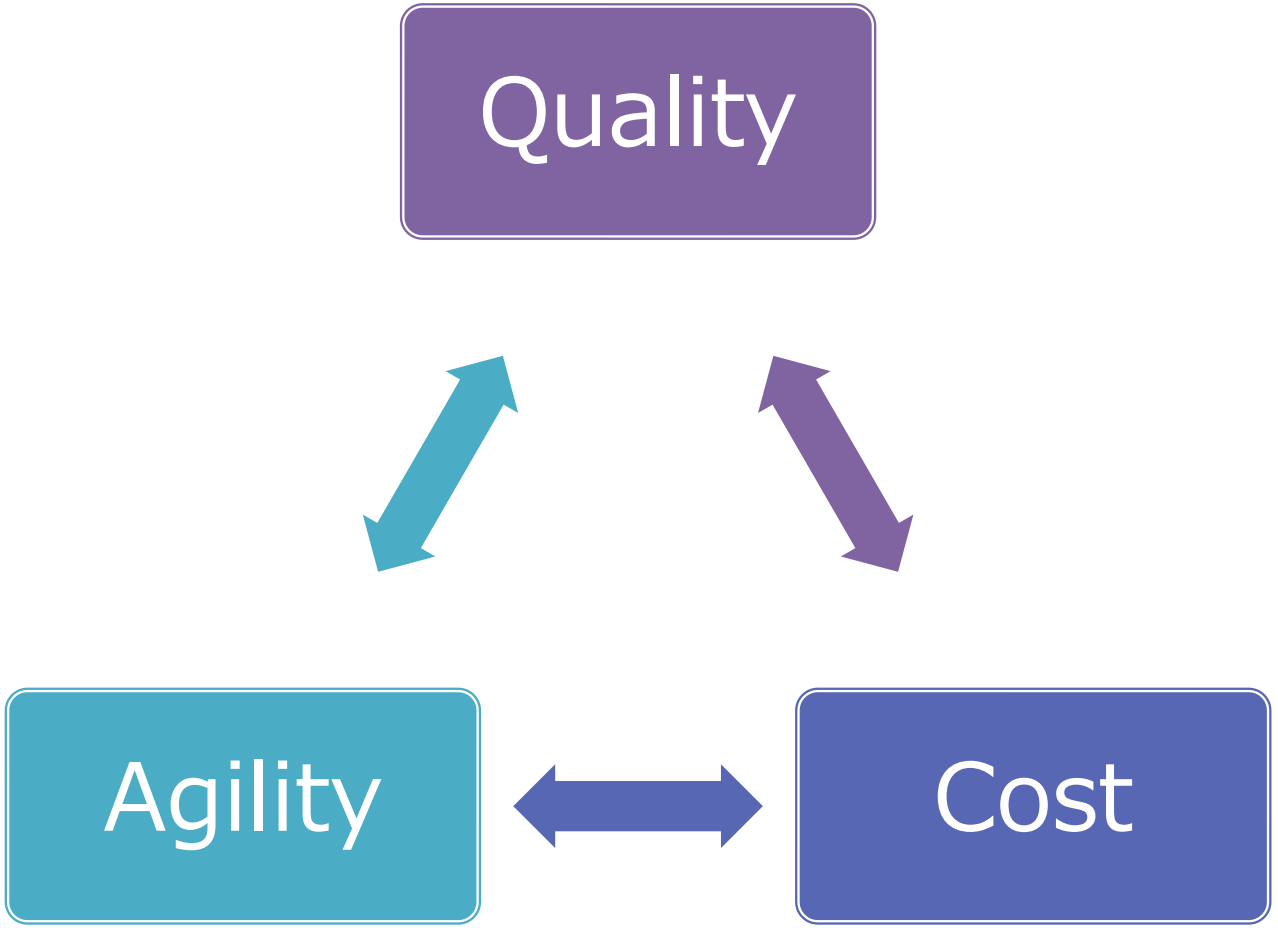


Chart 3-1-24 IT companies' feelings of excess and insufficiency of IT engineer's number (The last 5 years)

We have to change the way to

Current operation methods cannot bring the best performance of Quality, Agility, and Cost.



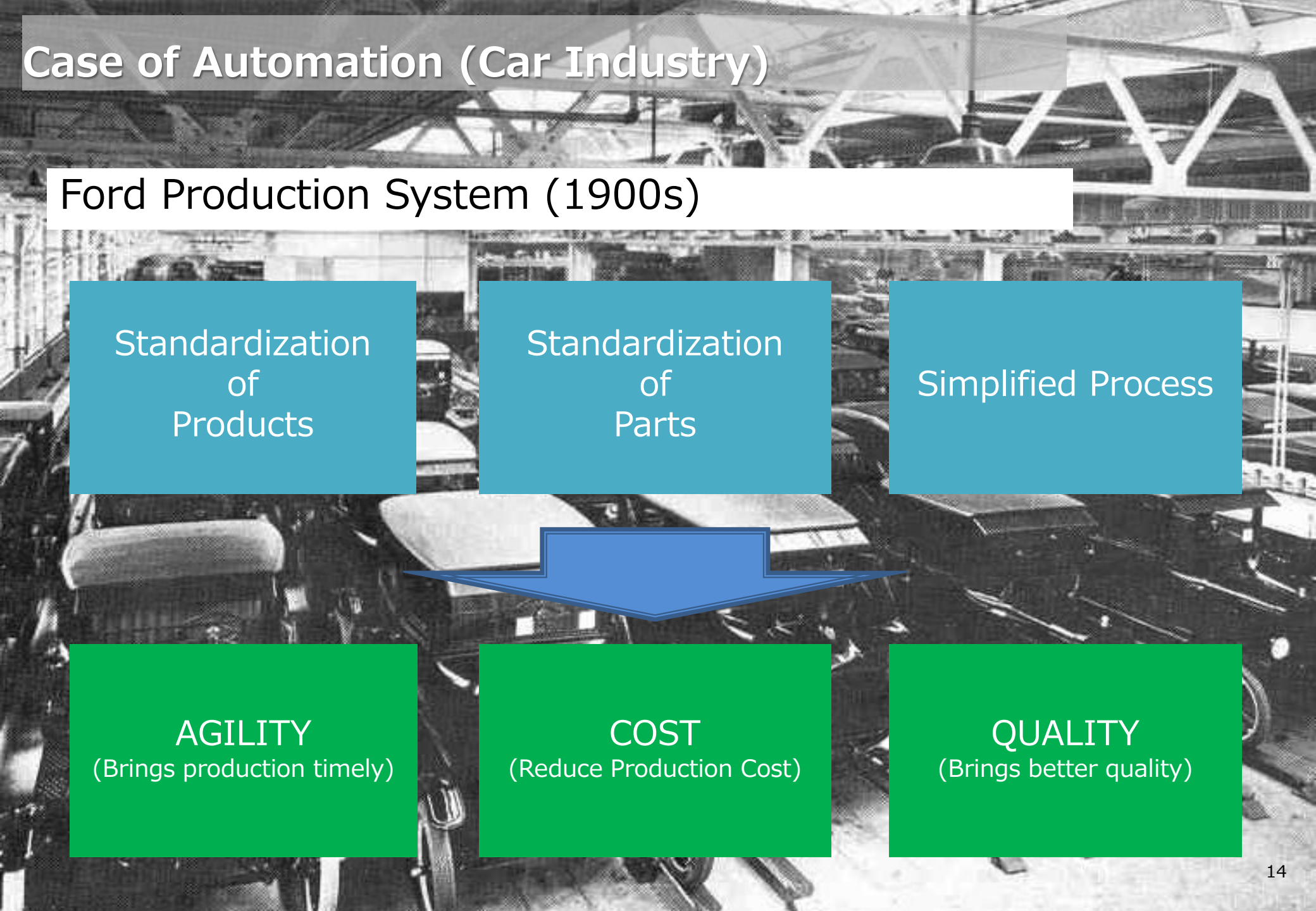
IT Operations go to Hybrid

Engineer × Software

On site × Remote site

Case of Automation (Car Industry)

Ford Production System (1900s)



Automations in OCP era

Automation of Cloud System Architecture & Operation

Standardization of System Architecture

Standardization of Package

Simplified Process

AGILITY
(Brings production timely)

COST
(Reduce Production Cost)

QUALITY
(Brings better quality)

System automation tools we offer

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BMC software

System automation tools

- ✓ Application
- ✓ Server
- ✓ Network
- ✓ Enterprise Scheduling & Workload

Xseed Cloudrop

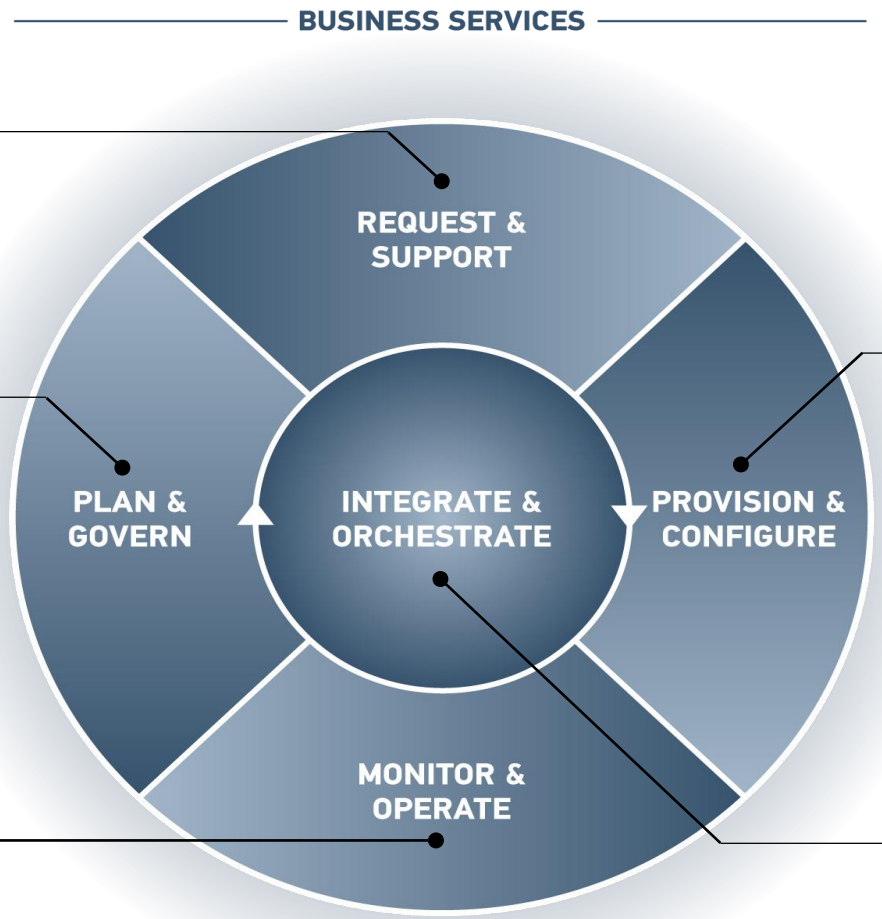
"cloudrop" provides the operating framework and interface to orchestrate VMs. You can build standardized operations for your systems.

BSM simplifies and automates IT management

- Request, change, and support business services

- Manage your IT supply, demand, and budget
- Ensure compliance with policies and regulations

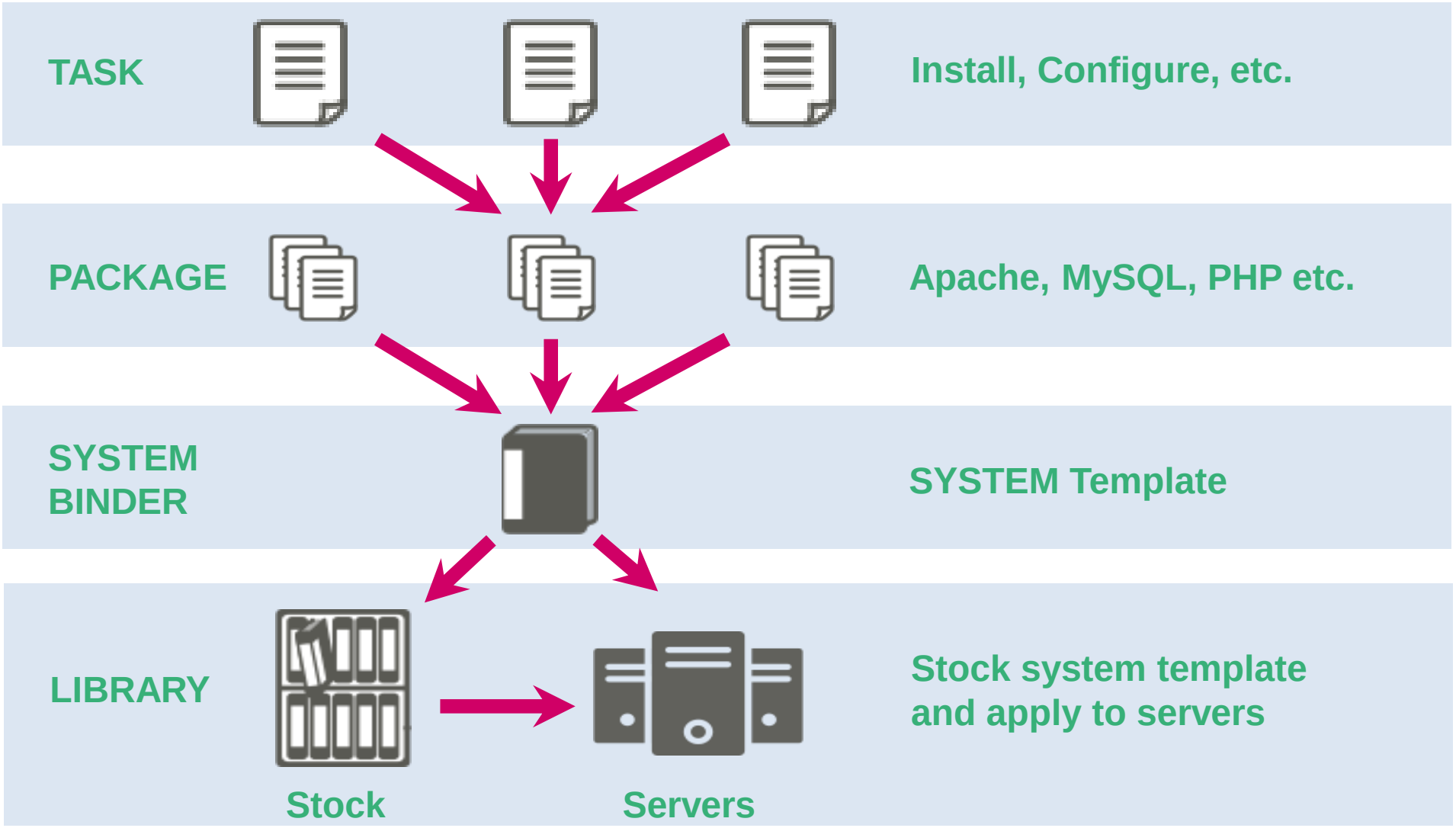
- Proactively identify and resolve IT issues



- Consistently deploy services across applications, servers, networks, and clients

- Discover, model, and prioritize services to improve decisions
- Federate and orchestrate data and workflow to improve efficiency

cloudrop provides operating framework



For remote operation

DCIM BY NISCOM niscom

DC Smart Assist

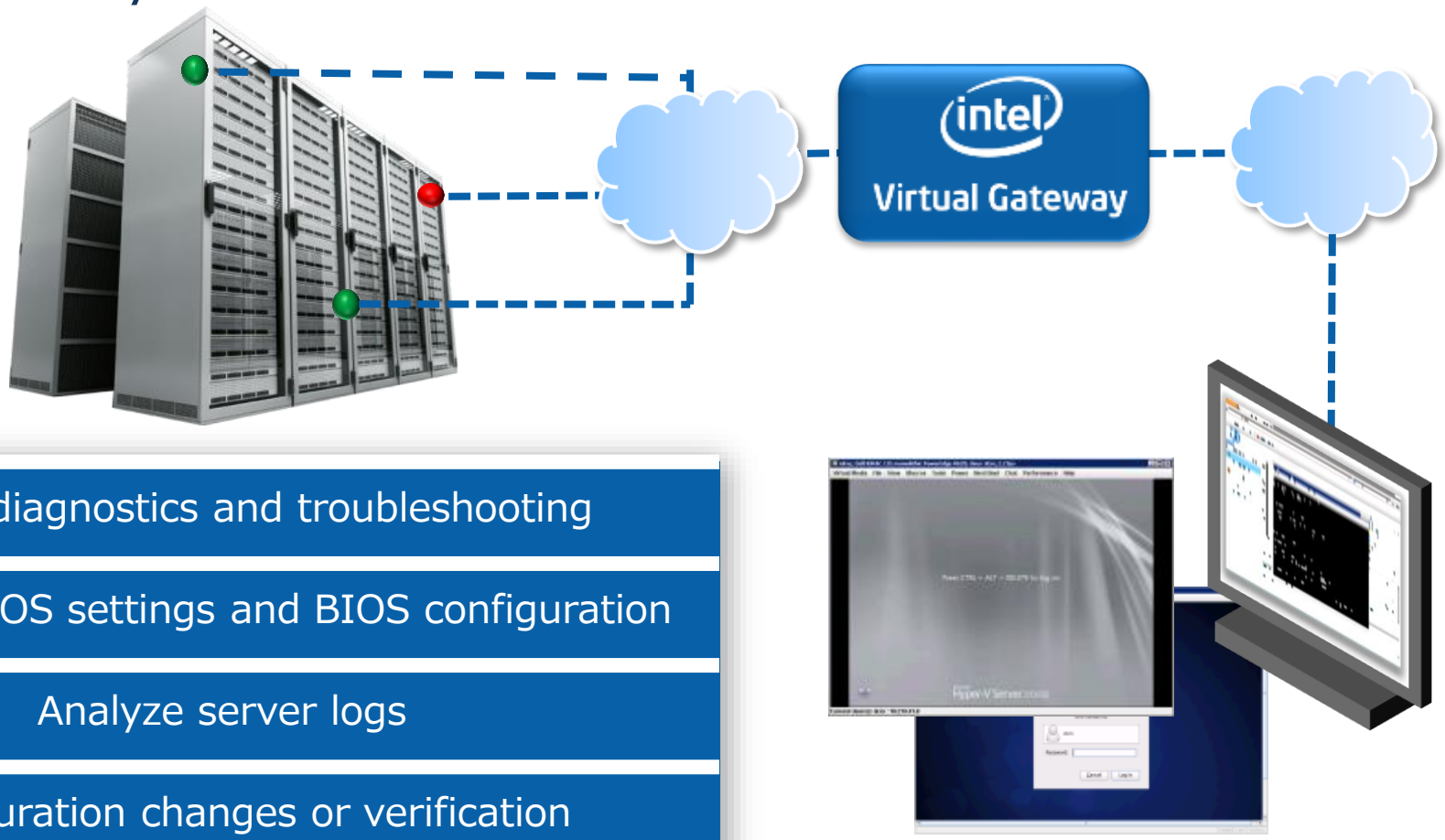
DCIM(DataCenter infrastructure management)

- Real time Power and Thermal Data for racks/ blades
- Policy Based Power capping for racks/ Blades
- IT Device Power (PDU, UPS, Network, Storage)
- Aggregated Control
- Historical Trending
- Cross Platform Support

For remote operation

DCIM BY NISCOM niscom

DC Smart Assist
Virtual Gateway

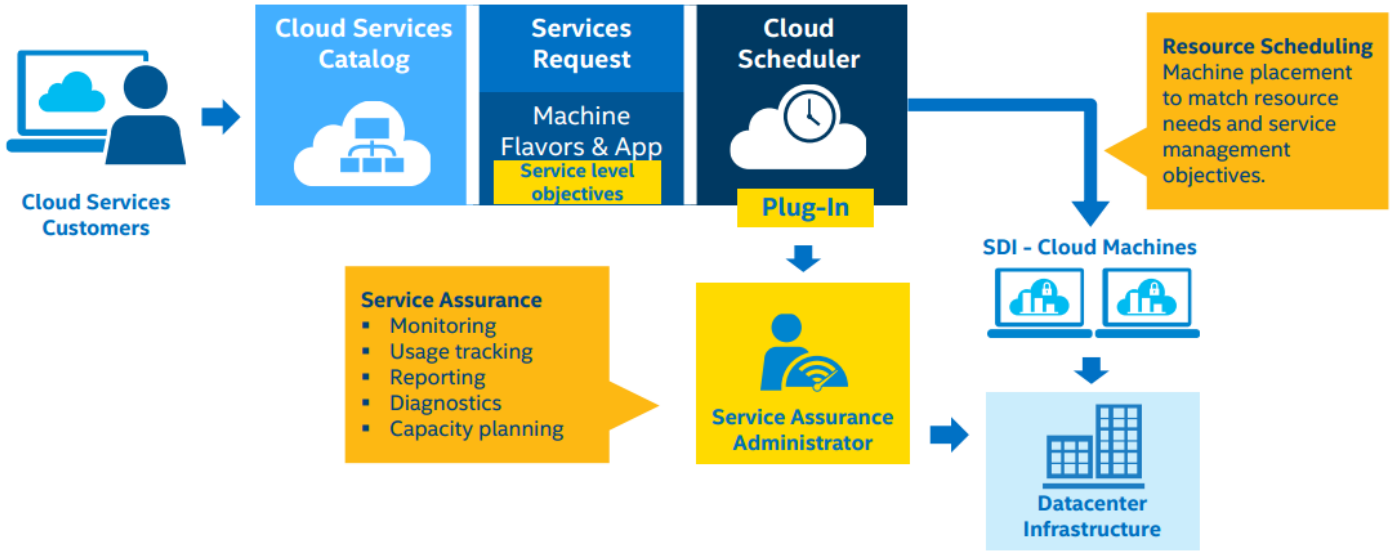


- Server diagnostics and troubleshooting
- Checking BIOS settings and BIOS configuration
- Analyze server logs
- Configuration changes or verification
- Remote power cycling

Cloud environment development

Provisioning tool for OCP

Intel® Service Assurance Administrator (Intel® SAA)



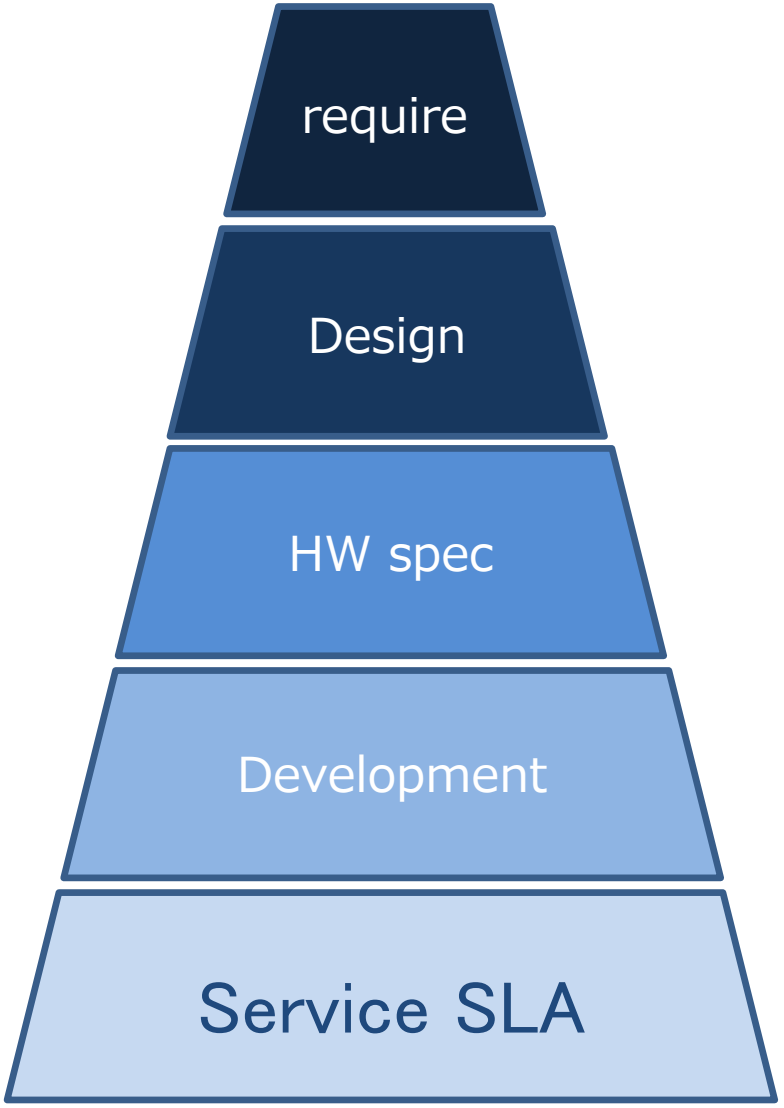
Feature Benefits
Enhance Machine Flavors managing to service level objectives
Automated provisioning with intelligent machine placement
OpenStack* Health Monitoring: Efficient Administration
Analysis and Remediation Engine: Probable Root Cause Analysis
Capacity and usage for insightful planning

http://www.intel.com/content/www/us/en/software/intel-service-assurance-agent.html

System Architecture for Operation-FIRST

Current

1. Requirement Definition
   - ✓ Vendor A
2. Design
   - ✓ Vendor B
3. HW Order
   - ✓ Vender C
4. Architect/Development
   - ✓ Vendor D
5. Operations (On site)
   - ✓ Vendor E



System Architecture for Operation-FIRST

OCP-like Policy & Philosophy

1. Service Requirement
   - ✓ Cost-first
2. Archite
3. Design
4. HW Or
5. Delivery & Architect (Automation)
6. Hybrid Operations

System Architecture by back-calculating from Sevice

Optimum Solution

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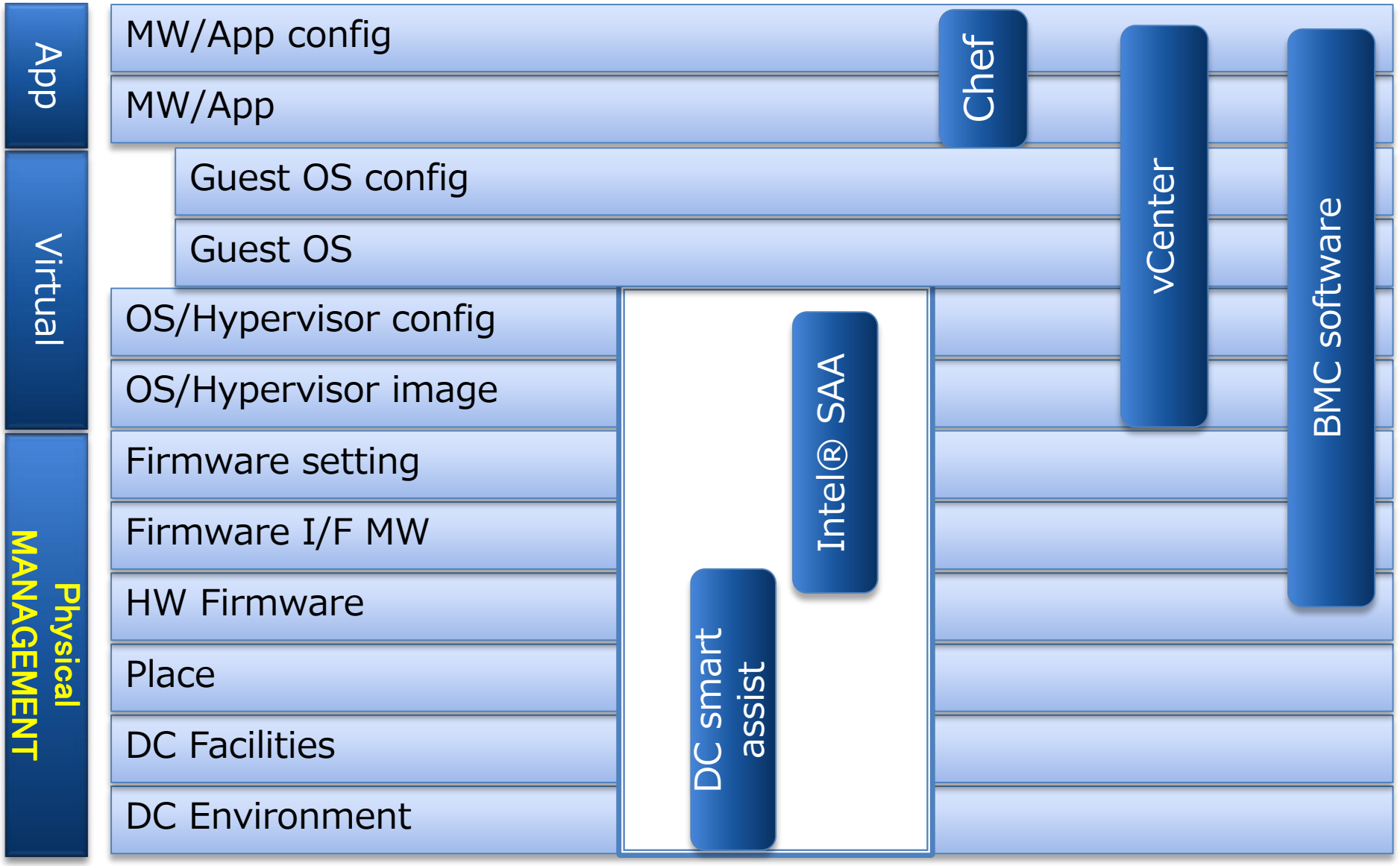
OSS delivers the best that Facebook might use.

	FACEBOOK	Utilizing OCP in Japan
Design Server	Design by themselves	OCP certified
Volume Order /Implementation HW repair	Themselves and HYVE 100K-200K Servers x4 in just one DC Repair machines by themselves & their system	**Need Volume Order!!** **Receiving & QA** **Provisioning automation** **Asset Management** **Repair Service**
Application	Build all APPs in their own	Offer Bare metal environment for customer
System Operation	Manage all DCs in the world from HQ Provide SLA down to each service levels	**Provide remote monitoring resource/Facilities** **System Management**

DC management stack



PoC thru with METI project

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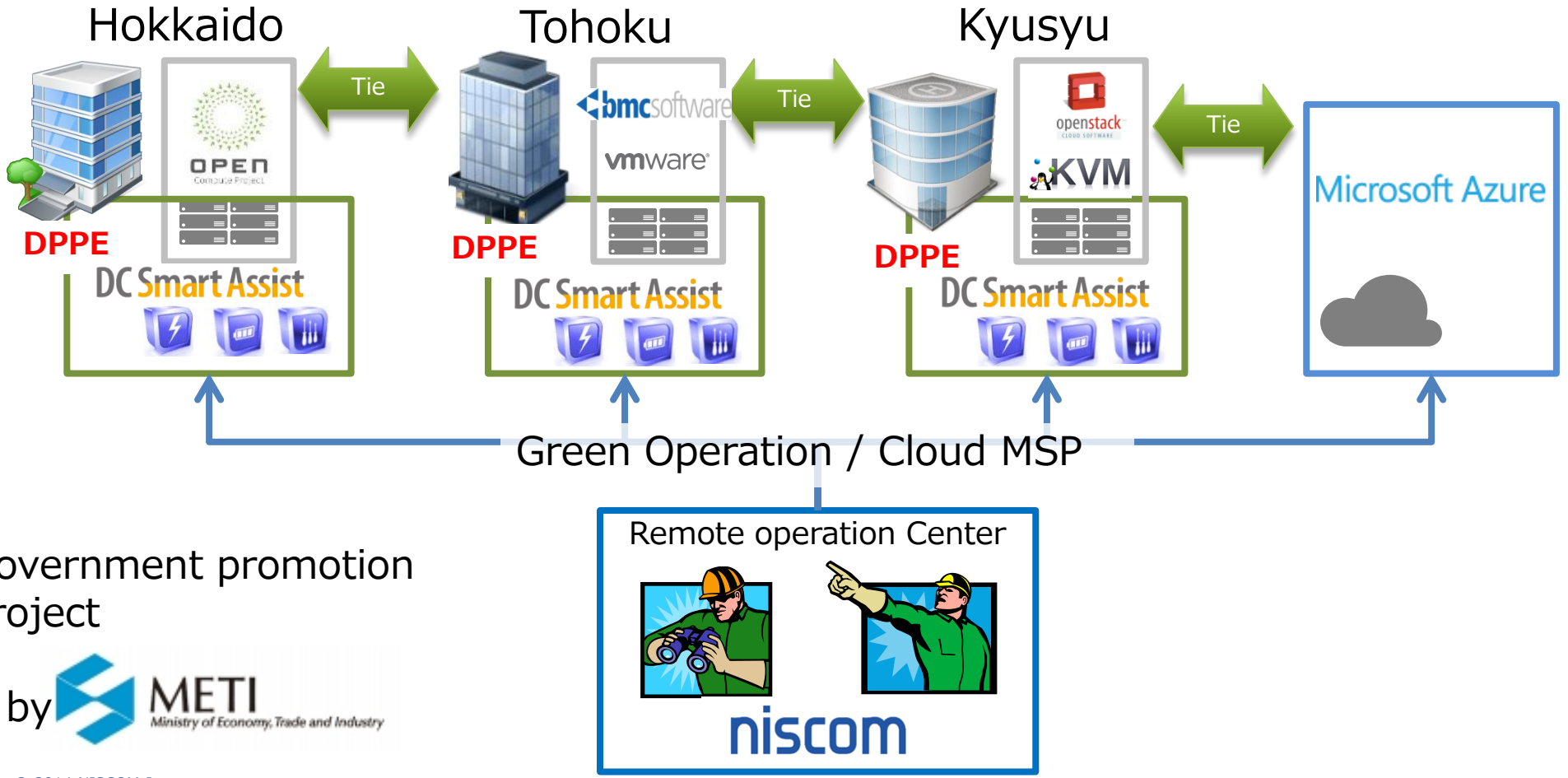
PoC will start from the end of October at Hokkaido, using OCP Certified Servers



Government promotion project

by METI Ministry of Economy, Trade and Industry

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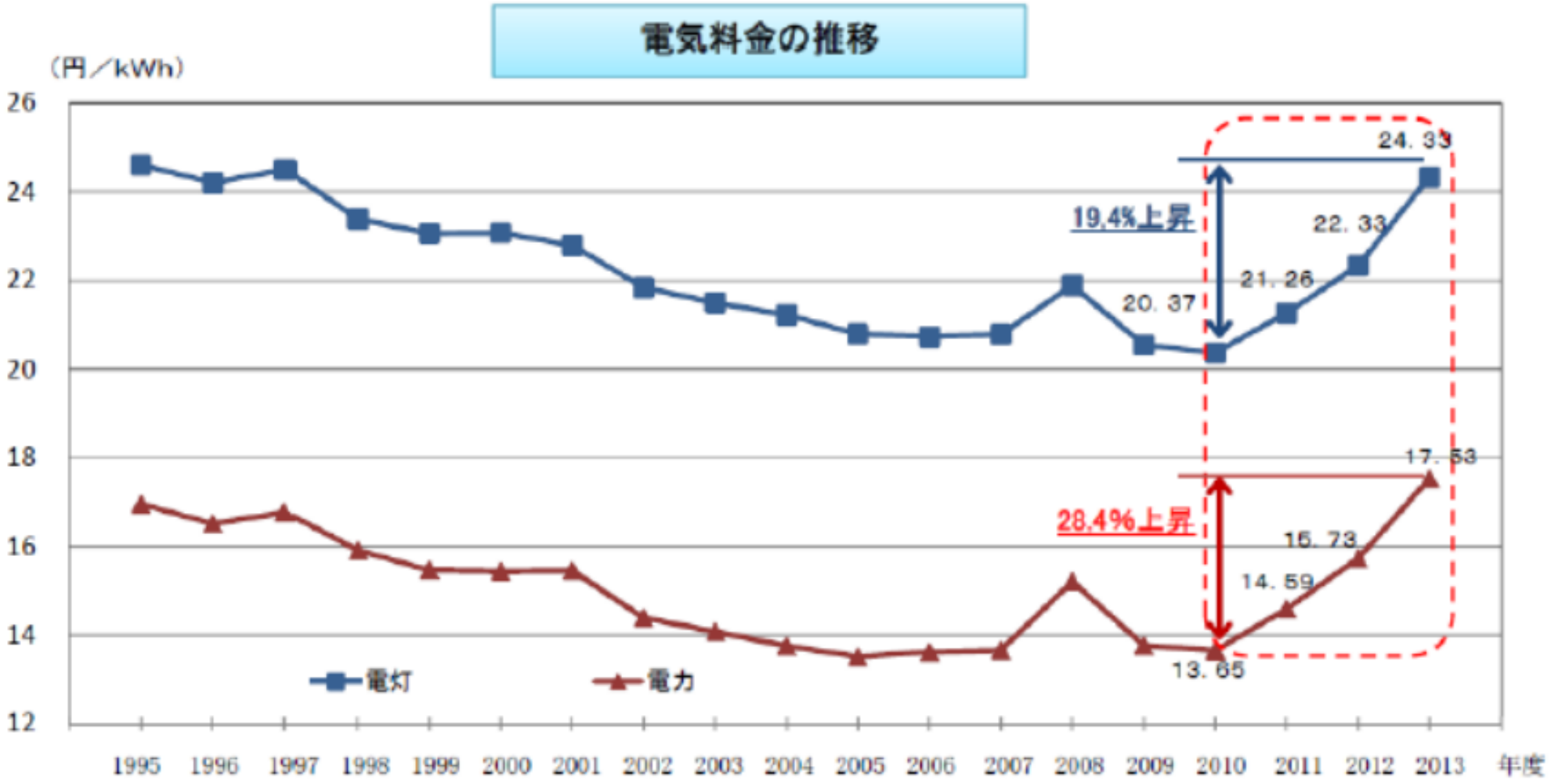
	Hokkaido	Tohoku	Kyusyu
IaaS	openstack CLOUD SOFTWARE Bare Metal	bmcsoftware vmware	openstack CLOUD SOFTWARE KVM
Hard ware	OPEN Compute Project	General ・ Hardware	General ・ Hardware

Energy price trend



Intel made this by Energy demand result report(FEPC)

How to compete with global Cloud vender

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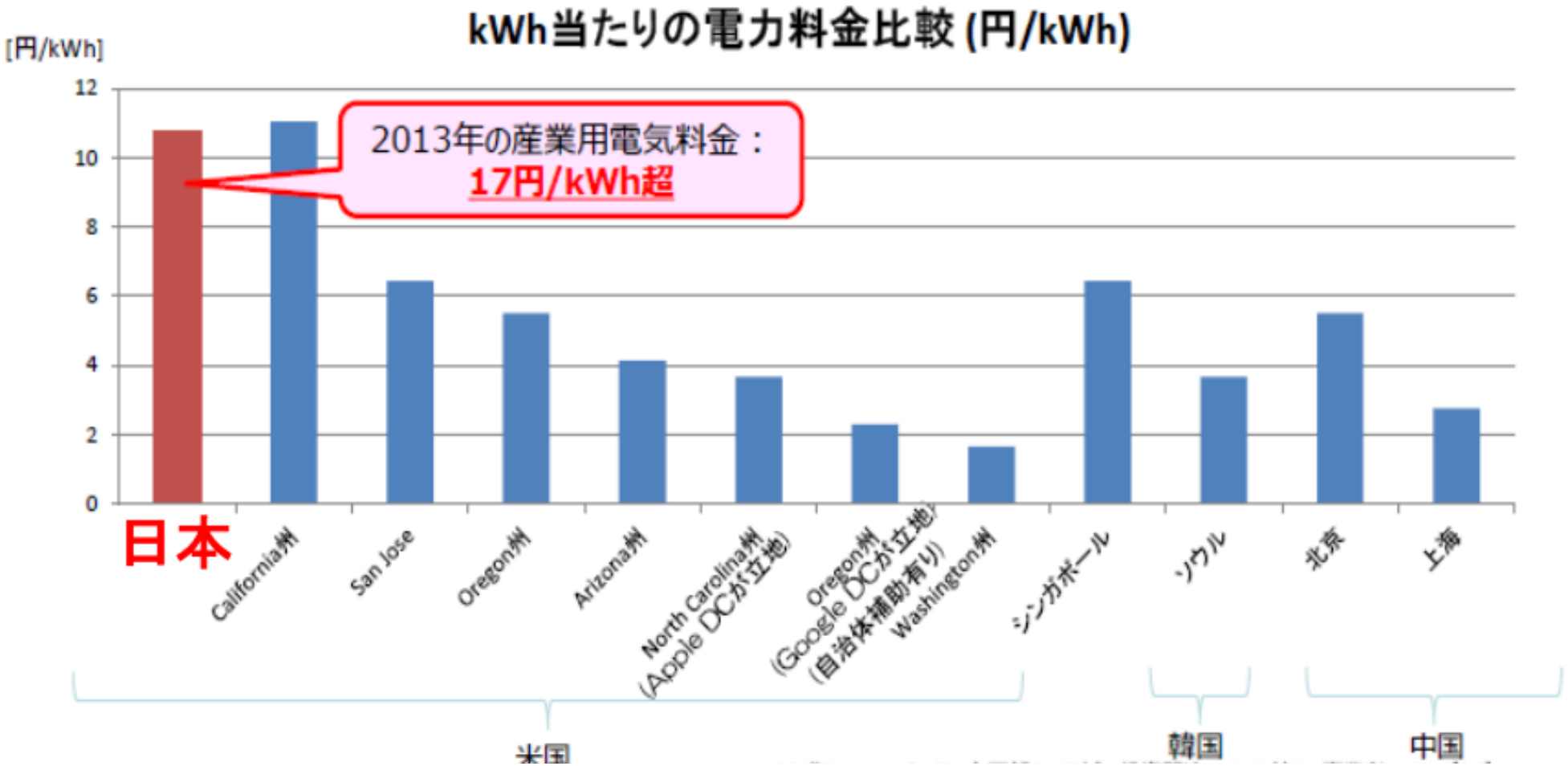
Energy price is **3-4 times higher**



Intel made this by invest cost report Asia(JETRO) & interviews

Keep moving forward

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1. Procurement at One time
   - ✓ QA, Kitting, Provisioning using Automation tools

2. Manage Huge IT infrastructure handle with few engineers
   - ✓ Using System Automation
   - ✓ Remote Center (24h7D) & On-site (daytime) hybrid
   - ✓ Specify OCP Architecture for use (Repair at on-site)

3. Application SLA only

Change the way to move forward